

# Work Order ID 115506

April-02-14 11:14:27 AM

**\*115506\***

Page 1

Item ID: D3391-023 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Mid Tube Assembly  
 Start Date: 4/02/14 Start Qty: 1.00 **\*1\*** Cust Item ID:  
 Required Date: 4/16/14 Req'd Qty: 1.00 **\*1\*** Customer:  
 Reference:

Approvals: Process Plan: MLJ Date: 14-04-02 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D3391	I

100

0.00

**\*100\***

Skidtubes

0.00

Skidtubes

Skidtubes

## Memo

- 1-Cut tube to finish length as per Dwg D3391
- 2-Drill pilot holes using DT8796 (Do not drill "B" holes) and drill only 1 fwd saddle hole on one side only as per Dwg D3391
- 3-Open saddles and GHW holes to Ø0.375 except for fwd saddle hole of detail "J"
- 4-Remove .030" from Fwd indexing Ridge as per Dwg D3391
- 5-Remove indexing ridge on Fwd & Aft end of skidtube as per Dwg D3391
- 6-Deburr
- 7-Drill #30 pilot holes using wearplate Jig DT8217 Identify Ø0.250" holes with paint marker,  
 \*\*\*DO NOT DRILL HOLES #3-19-20 FROM FWD END OF JIG
- 8-Open wearplate holes of D3391-023 assembly detail section G-G to Ø0.250" (10 holes) as per Dwg D3391
- 9-Open wearplate holes of D3391-023 assembly detail section H-H to Ø0.297" (20 holes) as per Dwg D3391  
 \*\*\*DO NOT OPEN 2 MOST FWD WEARPLATE HOLES\*\*\*

DBL 14-4-22

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Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
	10-Open .375" holes to .438" ***do not open fwd saddle holes***		D3C	14-4-22					
	11-Locate D3391-021 in D3391-023 at 9.00" (see view z-z)								
	12- Transfer drill one fwd saddle hole only to .188" dia, transfer drill all remaining fwd saddle holes using DT 8149 locating from previously drill .188" dia hole, using t-pins and clicos to ensure perfect allingment, open up previously tranfer drilled pilot holes in D3391-023/-021 to 0.438" dia. in D3391-021 D3391-021 BATCH: <u>114257</u>								
	13- Using DT8217, locating from two previously drilled holes, drill remaining wearplate holes into D3391-021.								
	14- Locating from two fwd wearplate holes in D3391-023 drill remaining 6 wearplte holes in D3391-021 using DT8937								
	15- Open 10 wearplate holes in D3391-021 to 0.297" dia.								
	16- insert D3391-021 into D3391-23								
	17- insert T-pins into first and third fwd saddle holes								
	18- ON FIRST SIDE ONLY drill out 2nd and forth fwd saddles holes to 0.500" as per								
	19- ON 2ND SIDE ONLY ream out 2nd and forth saddle hole to 0.499".								
	20-Deburr and blow out all chips from inside tube, scribe batch # in D3391-023 at aft end.								

**14-4-23**

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Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110 <b>*110*</b> QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo	0.00 0.00	<i>STP</i> <i>14/4/23</i>						
120 <b>*120*</b> HandFinish Hand Finishing	Chemical Conversion Coat per OSI005 4.1  Memo	0.00 0.00	<i>DGL</i> <i>JLL</i>	<i>14-4-28</i>					
130 <b>*130*</b> QC Quality Control	QC7-Inspect Chemical Conversion Coat  Memo	0.00 0.00				<i>1</i>	<i>0</i>	<i>14/04/28</i>	

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Item ID: D3391-023 Accept \*N900040100\* Setup Start \*NS1\*  
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Start Date: 4/02/14 Start Qty: 1.00 \*1\* Cust Item ID:  
Required Date: 4/16/14 Req'd Qty: 1.00 \*1\* Customer:  
Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start \*NR1\*  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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140

0.00

\*140\*

Skidtubes

0.00

Skidtubes

## Memo

1-Open float bag holes as per dwg  
2-C'sink float bag holes as per dwg  
3- Prepare tube for welding  
4-Bond web in place as per Dwg D3391 & QSI 015.  
Adhere for 12 hours)  
A/R Sikaflex exp: 14/10/09  
batch#: 128026

NOTE:ENSURE WEB IS INSERTED IN AFT END OF TUBE

OK 14/04/28

150

0.00

\*150\*

QC

QC5- Inspect part completeness to step on W/O

## Memo

0.00

Quality Control

DAS  
18  
9-89

1 0 14-0430

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**Item ID:** D3391-023

**Accept**

**\*N900040100\***

Setup Start \*NS1\*

Revision ID:

**Item Name:** Mid Tube Assembly

Stop \*NS2\*

**Start Date:** 4/02/14      **Start Qty:** 1.00      **\*1\***

**Cust Item ID:**

**Required Date:** 4/16/14      **Req'd Qty:** 1.00      **\* 1 \***

**Customer:**

**Reference:**

**Approvals:**      **Process Plan:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Tooling:** \_\_\_\_\_ **Date:** \_\_\_\_\_      **Run**      **Start**      **\*NR1\***  
                          **QC:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **SPC (Y/N):** \_\_\_\_\_ **Date:** \_\_\_\_\_      **Stop**      **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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160

0.00

**\*160\***

## Skidtubes

0.00

## Skidtubes

## Memo

## Skidtubes

1-Weld crossbolt spacer as per dwg D3291 & OSI 004 A/R m12B385 02-4-04 30  
2-grind weld flush - 02-14/04/30

170

QC10- Inspect visual per QSI004- ground welds

0.00

**\*170\***

QC

## Memo

0.00

## Quality Control

180

QC5- Inspect part completeness to step on W/O

0.00

**\*180\***

QC

## Memo

0.00

## Quality Control

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Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
185	Pressure Wash per QSI005 4.3	0.00							
<b>*185*</b>									
HandFinish	Memo	0.00							
Hand Finishing	AND REALODINE AS PER PAR09-043								
190	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
<b>*190*</b>									
Powdercoat	Memo	0.00							
Powder Coating	START TIME: _____ OVEN TEMPERATURE: _____ FINISH TIME: _____								
200	QC3- Inspect Part Finish	0.00							
<b>*200*</b>									
QC	Memo	0.00							
Quality Control									

*PTO -  
Last page*

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**\*N900040100\***

Setup Start \*NS1\*

Stop \*NS2\*

**\* 1 \***

**Cust Item ID:**

**Start Date:** 4/02/14      **Start Qty:** 1.00

**\* 1 \***

**Customer:**

**Required Date:** 4/16/14      **Req'd Qty:** 1.00

**Reference:**

**Approvals:**      **Process Plan:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Tooling:** \_\_\_\_\_ **Date:** \_\_\_\_\_      **Run**      **Start**      **\*NR1\***  
                          **QC:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **SPC (Y/N):** \_\_\_\_\_ **Date:** \_\_\_\_\_      **Stop**      **\*NR2\***

[illegible]

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Required Date: 4/16/14 Req'd Qty: 1.00 \*1\* Customer:  
Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start \*NR1\*  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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260	QC21- Final Inspection - Work Order Release	0.00							
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\*260\*

QC

Memo

0.00

Quality Control

14-8-16



# Picklist Print

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Page 1

Work Order ID: 115506

**\*115506\***

Parent Item: D3391-023

**\*D3391-023\***

Parent Item Name: Mid Tube Assembly

Start Date: 4/02/14

Required Date: 4/16/14

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP A05.10.20New Issue KJ/EC  
 IPP B06.02.10ECN773 dwg rev.D EC  
 IPP C 07.03.20 rev F dwg EC  
 IPP D 07.03.28 re-format EC  
 IPP E 07.10.31 ecn 1053P EC  
 IPP Rev:F ECN 1056 07-11-13 DD verified by: EC  
 IPP Rev:G 08-09-08 new process (ecn 08-510) DD verified by:EC  
 IPP Rev:H 08-09-10 revH as per dwg DD verified by:EC  
 IPP Rev: I 08-11-13 Removed steps per w/o, QC KJ verified by: ec IPP  
 Rev:J add in seq 140 expire date &b# sikaflex DD 10.02.17 verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2500-1-100		Manufactured	No			100	Each	83.0000	1	1			
<b>*D2500-1-100*</b>													
Skidtube Extrusion													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				HALL		83							
				82373		22							
				86065		61							
D3389-1		Manufactured	No			140	Each	8.0000	1	1			
<b>*D3389-1*</b>													
Web													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				LG		8							
				113057		8							
D3681-1		Manufactured	No			160	Each	234.0000	5	5			
<b>*D3681-1*</b>													
Spacer													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				LG		168							
				114884		168							
				LG001		66							
				109109		66							

DGC 14-4-22  
 DE 14/04/28

BB 14-04-30

5

# Picklist Print

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Work Order ID: 115506

**\*115506\***

Parent Item: D3391-023

**\*D3391-023\***

Parent Item Name: Mid Tube Assembly

Start Date: 4/02/14

Required Date: 4/16/14

Start Qty: 1.00

Required Qty: 1.00

D3591-1 Manufactured No

Each 88.0000 2

**\*D3591-1\***

**\*\***

Bushing

Location

Loc Qty

Loc Code

FG	10	
92873	10	
FP001	78	
100699	5	
107918	36	
109107	37	

ALS4-1032-130 AE4S4-1032-130 Purchased No

230 Each 9,937.000 20 20

**\*ALS4-1032-130\***

**\*\***

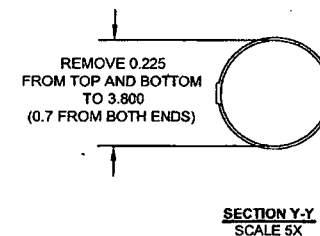
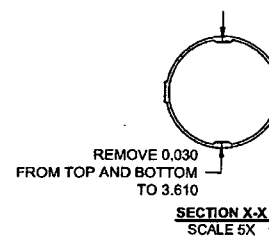
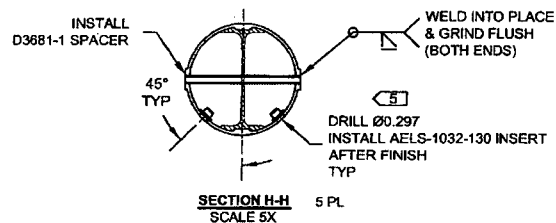
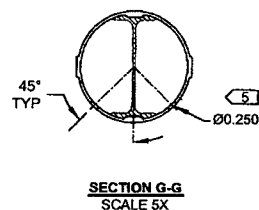
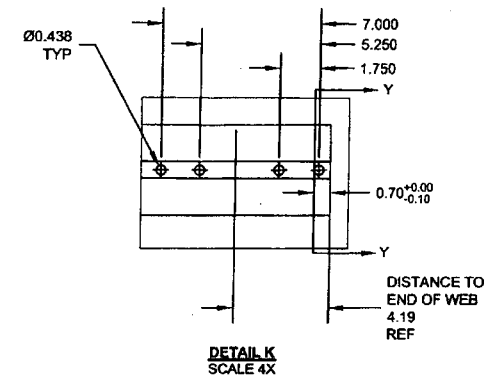
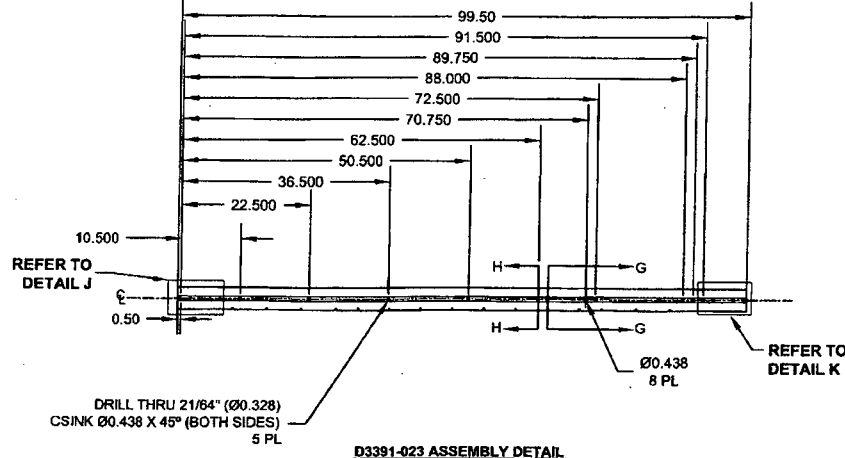
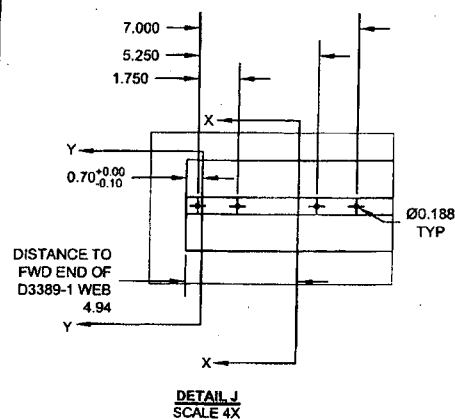
Rivnut

Location

Loc Qty

Loc Code

FP001	9832	
M128649	9832	
ST279	48	
M128211	48	
st510	57	
M126109	57	



**D3391-023 MID TUBE ASSEMBLY PARTS LIST**

QTY -	PART NUMBER	DESCRIPTION
023		
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AEIS-1032-130	INSERT

**D3391-023 MID TUBE ASSEMBLY**

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/-291 PER QSI 015
- 3) WELDING: PER DART QSI 004

**RELEASED**  
2011-11-04

DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
DRAWN	XDF	KENT, WA	
CHECKED		DRAWING NO.	REV. 1
MFG. APPR.		D3391	SHEET 6 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	11.10.13	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC	

115506 MJS  
14-04-02

NCR: Yes / No

## WORK ORDER NON-CONFORMANCE / UPDATE

DQA: dot Date: 14/08/14QA Closed: 800 Date: 14/12/11

Work Order: <u>B115S06</u> Part No. <u>D3391-021</u> NCR No. <u>WCR 14-4110</u>				<b>DISPOSITION</b> Rework <input type="checkbox"/> Scrap <input checked="" type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		<b>AGAINST DEPARTMENT/PROCESS</b> <div style="display: flex; justify-content: space-between;"> <div>             Skid-tube <input type="checkbox"/>              Machining <input type="checkbox"/>              Thermoforming <input type="checkbox"/>              Large Fab <input type="checkbox"/> </div> <div>             Crosstube <input type="checkbox"/>              Small Fab <input type="checkbox"/>              Finishing <input type="checkbox"/>              Composite <input type="checkbox"/> </div> <div>             Water Jet <input type="checkbox"/>              Prod. Eng. Coord. <input type="checkbox"/>              Rec/Store/Packaging <input type="checkbox"/>              Supplier <input type="checkbox"/> </div> <div>             Engineering <input type="checkbox"/>              Quality <input type="checkbox"/>              Other <input checked="" type="checkbox"/> </div> </div>					
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Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	14/7/16		1	DEEP CORROSION IN OUTER SURFACE. PART WAS STORED IN ALUMINUM/ACID ROOM TOO LONG PL. Parts were not kept in a clear area / Poor house keeping <i>Facility</i>	DAS 12 9-89 14/7/16	SCRAP AND DESTROY NO REPLACE	14-8-6 <i>GL</i>	14-8-6 <i>DD</i>	DAS 16 9-89 14/08/06
Equip/Tooling									
Operator									
Material									
Setup									
Other <input checked="" type="checkbox"/>									
Process									
Supplier									
Training									
Unapproved									

FAULT CATEGORY			
<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input checked="" type="checkbox"/> Other



## Non-Conformance Report

<b>Reviewed</b>
<b>DQA:</b>
<b>Date:</b>

Printed on: Wednesday, August 06, 2014

<b>Raised Date</b> 8/6/2014	<b>Status</b> Open	<b>Owner</b> Forbes, Nigel	<b>Number</b> NCR14-4110
<b>Target Date</b> 8/15/2014	<b>Standard</b>		<b>Severity</b> MAJOR
<b>Process</b> Employee finding		<b>Audit</b>	
<b>Raised By Person</b> Downing, Eric M	<b>Raised Against (Department or Supplier)</b> Facility		<b>Fault Category</b> Maintenance
<b>Details</b> was found that qty x3 D3391-023 mid tubes had sever corrosion on them. it was due to them being stored in the alodine room an a rack right in line of the pressure washer & wash hose spray. the parts were inspected and placed in the alodine room on the 15th of may 2014 and the corrosion was found on them on the 16th of july 2014.			
<b>Keywords</b>		<b>Product</b> D412-742\D3391-023	
<b>Document</b>		<b>Root Cause</b>	
<b>Closed By</b>	<b>Closed Date</b>	<b>Resolution</b>	

<b>Target Date</b> 8/15/2014	<b>Owner</b> Forbes, Nigel	<b>Closed Date</b>	<b>Closed By</b>
<b>Details</b>			

<b>Number</b>	<b>Owner</b>	<b>Target Date</b>	<b>Completed Date</b>
<b>Details</b>		<b>Response</b>	
1	Downing, Eric M	8/8/2014	8/6/2014
scrap all mid tubes D3391-023 and have production attempt to save the matching fwd tubes		D3391-023 B115506, B114275 & B115507 are all scrap and production is unable to save the D3391-021 B114257, B114259 & B114258 all written up on the back of each w/o	
2	Forbes, Nigel	8/15/2014	
look into the storing of the tubes in the finishing department the time the parts are kept in the department and find a way to protect parts from over spray of acid or other chemicals			